

REMARKS

Claims 1-72 are rejected. Applicants believe that the present application is in condition for allowance, which prompt and favorable action is respectfully requested.

35 U.S.C. 102 Rejection

Claims 1-3, 8, 11-12, 16, 19-20, 26, 33, 38, 44, 47-48, 52, 55-57, 65-66, 67, 70 are rejected under 35 U.S.C. 102 as being allegedly anticipated by U.S. Patent No. 7,047,005 by Kinnavy (“Kinnavy”). The rejection asserts that Kinnavy allegedly teaches each element of the claims. Applicants respectfully traverse the rejection.

Applicants’ claims are generally directed for providing short-slot-cycle paging information between a communication device (CD) and a base station (BS). Specifically, independent claim 1 recites a method wherein the CD provides the feature of short-slot-cycle paging information to a BS comprising “determining whether the BS is capable of short-slot-cycle paging; and indicating that the CD is also capable for short-slot-cycle paging if the BS is determined to be capable of short-slot-cycle paging.” Similarly, claim 11 recites a method wherein the BS indicates the feature of a short-slot-cycle paging information to a CD comprising “indicating to a communication device (CD) that the BS is capable of short-slot-cycle paging, receiving information from the CD, indicating that the CD is also capable for short-slot-cycle paging; and paging the CD based on the received information.” This in general aids in shorter call setups. See Para. [0043]. As discussed below, Kinnavy simply does not teach or suggest the feature of communicating the capability of short-slot-cycle paging between a CD and BS. In fact, Kinnavy simply teaches the use of the quick-paging channel (QPCH) to preserve battery life and never mentions or discloses a short-slot-cycle paging.

The Applicant's application ("app") defines short-slot cycles. Slot cycle arrangements are well known in the art, for instance, generally known as a setting that controls the length of a slot. A slot is defined as $(1.28 \text{ seconds}) * (2^{\text{slot cycle}})$. So if slot cycle 0 is 1.28 seconds, then slot cycle 1 is 2.56 seconds, slot cycle 2 is 5.12 seconds, etc. Fig. 5 shows an embodiment of a slot cycle arrangement where a slot cycle of 1.28 seconds further consists of 16 slots of 0.08 seconds each. As well known in the art, a CD is typically assigned a slot within the slot cycle and wakes up every 1.28 seconds to check that particular slot. Therefore, using Fig. 5 as a reference, a CD that was assigned slot 3 in a slot cycle of 1.28 seconds, would wake up every 1.28 seconds, offset 240 MSEC from the start of each slot cycle. However, the general advantage of a shorter slot cycle is the phone gets more chances to receive a page, but this makes the phone use more power, therefore it is less favorable for those that wish to conserve power. A short-slot cycle arrangement, as generally defined in the app, is a fast call setup mode of the mobile station ("MS") and Group Communications Device ("CD"). Referring to Paras. 43-46, Figs. 5-6 and table 1 of the app, it states that

"As discussed above, for some applications, such as group call services, shorter call set ups are required. In one embodiment, SCI (SLOT_CYCLE_INDEX) takes negative values, such as -1, -2, -3, and -4. Negative SCI values shorten paging delays and hence call set up delays. FIG. 6 illustrates a flow diagram for providing short-slot-cycle paging in a base station. BS may advertise its capability of negative slot-cycle-index paging to the target CDs ... to indicate whether BS supports negative slot-cycle-index paging. In step 604, the BS that supports negative slot-cycle-index paging receives and interprets the WLL_INCL field ... In step 606, if the WLL_INCL field is set to "1" in the received registration message, origination message, or page response message, indicating that the CD that sent one of these messages is also capable of negative slot-cycle-index paging, the BS interprets the slot-cycle-index value as being negative, as shown in Table 1 ... Otherwise, if the received slot cycle index has a decimal value of 0, 1, 2, 3, or 4, the BS interprets the received slot-cycle-index value as being negative, in step 612. A slot-cycle-index value of -1 causes the BS to page the target CD every eight slots, or every 0.64 seconds. A slot cycle index value of -2 causes the BS to page the target CD every four slots, or every 0.32 seconds. A slot cycle index value

of -3 causes the BS to page the target CD every two slots, or every 0.16 seconds. A slot cycle index value of -4 causes the BS to page the target CD every slot, or every 0.08 seconds, providing a relatively shorter slot cycle paging.”

Table 1 clearly shows an interpretation of the WLL__INCL field to force the BS to page the CD at a quicker rate than ordinarily done, which is the short-slot cycle as presented. Therefore, as defined in this app, a short-slot cycle is a cycle that may encompass two or more slots within the generally known single slot of 1.28 seconds. For instance, referring to Fig. 5, in a short-slot cycle a CD might be assigned slots 3 and 11, wherein the CD would wake up every 64 MSEC to check the paging channel.

Kinnavy discloses a method and a mobile station for enabling a preferred slot cycle

wherein a negotiation occurs between the mobile station and the base station, wherein

“the internal SCI may be pre-stored in the mobile station 160 whereas the broadcasted SCI may be provided by the base station 140. Typically, the mobile station 160 determines an operating SCI using the minimum of the internal SCI and the broadcasted SCI to control call setup time. For example, the mobile station 160 may have an internal SCI of three (3) and receive a broadcasted SCI of one (1). Thus, the operating SCI for the mobile station 160 may be one (1) because the broadcasted SCI of one (1) is less than the internal SCI of three (3). Accordingly, the operating slot cycle corresponding to the operating SCI of one (1) is 2.56 seconds as one of ordinary skill in the art will readily recognize, i.e., operating slot cycle may be $2 \times \text{sup.n.times.} 1.28 \text{ (sec)}$, where n is the operating SCI. As a result of the operating SCI being one (1), the mobile station 160 monitors for transmission from the base station 140 during a slot that reoccurs every 2.56 seconds. Col. 4, lines 23-38.

Further,

“For example, the mobile station 160 may enable a preferred SCI of four (4), which may correspond to a preferred slot cycle of 20.48 seconds, to conserve battery power of the mobile station 160 rather than using a lower operating SCI (i.e., an operating SCI of three (3) or less). The mobile station 160 transmits the preferred SCI to the base station 140 via a reverse control channel 220 (e.g., a reverse access channel (R-ACH)) to indicate that the mobile station 160 is operating at the preferred slot cycle associated with the preferred SCI. As a result of informing the base station 140 with the preferred SCI, the mobile station 160 is in communication with the base station 160 via the communication resource 210 during a slot that reoccurs based on the preferred slot cycle. Thus, in the example described above, the mobile station 160 monitors for transmission from the base station 140 via the communication resource 210 during a slot that reoccurs every 20.48 seconds.” Col. 4, line 58 – Col. 5, line 8.

Clearly, the mobile station and the base station adjust the operating SCI to the preferred SCI and communicate the change to each other. However, Kinnavy simply does not discuss the

use of the paging channel for short-cycles, specifically short-slot cycles as defined in the Applicants' app. Kinnavy simply makes use of well-known paging cycles, as disclosed in Col. 1, lines 59-55, and Col. 4, lines 50-62. There is nothing to indicate the feature of a short-slot cycle, wherein, for instance, a slot-cycle-index value of -1 causes the BS to page the target CD every eight slots, or every 0.64 seconds. This would be twice as often as a standard slot of 1.28 seconds as discussed in standards and in Kinnavy. Therefore, Kinnavy simply does not disclose the features of either "determining whether the BS is capable of short-slot-cycle paging" or "receiving information from the CD, indicating that the CD is also capable for short-slot-cycle paging."

Similarly, Kinnavy does not disclose any mechanism by which to determine if either the BS or the CD is capable of short-slot-cycle paging, as defined in the Applicants' app. Since Kinnavy simply provides an indicator for well-known SCI slot numbers, there is no need to determine if the BS or the CD are actually capable of providing the defined short-slot-cycle paging. In fact, there is no enabling feature disclosed or suggested as to how the BS and the CD would provide for a short-slot-cycle paging as defined in the Applicants' application. In addition, the dependant claims (6-7, 9-10, 15, 17, 18, 24, 25, 27, 28, 33, 35, 36, 42, 43, 45, 46, 51, 53, 54, 60, 61, 63, 64, 69, 71 and 72) features provide the functionality to be able to implement the independent feature of determining and/or receiving. It would not have been obvious, as suggested, that these features be implemented in the fields as indicated. Applicants' humbly request that evidence be presented as to why the use of these particular fields in the prescribed manner are to be regarded as common knowledge.

For all the above reasons, Applicants' respectfully submit that Kinnavy does not teach all the elements of the independent claims.

Dependent Claims

Claims 2-10, 12-18, 20-28, 30-36, 38-46, 48-54, 56-64 and 66-71 depend directly or ultimately from, and include all the subject matter of, claims 1, 11, 19, 29, 37, 47, 55 and 65, and should be allowed for at least the same reasons presented above regarding the independent claims as well as the additionally recited features found in the claims. Because independent claims 1, 11, 19, 29, 37, 47, 55 and 65 are believed to be allowable, Applicant has not argued or otherwise relied on independent patentability of dependent claims, but reserves the right to do so in this or any subsequent proceeding.

CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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